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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/046,953	01/15/2002	William Kress Bodin	AUS920010780US1	4417
45993	7590	07/28/2006	EXAMINER	
IBM CORPORATION (RHF) C/O ROBERT H. FRANTZ P. O. BOX 23324 OKLAHOMA CITY, OK 73123			BROWN, VERNAL U	
			ART UNIT	PAPER NUMBER
			2612	

DATE MAILED: 07/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/046,953

Applicant(s)

BODIN, WILLIAM KRESS

Examiner

Vernal U. Brown

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on 15 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-27 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

This action is responsive to communication filed on May 5/15/06

Response to Amendment

The examiner acknowledges the amendment of claims 1, 10, and 19.

Response to Arguments

Regarding applicant's argument regarding the reference of Starner et al. is not relied upon for teaching a system for detecting free space gesture in which the user is required to be proximal or close to the interface panel. The reference of Starner et al. is relied upon for teaching the use of gesture to control a physical security action such as opening a door. Starner et al. teaches an alternative system in which the user is required to be proximal or close to the interface panel and therefore acknowledges the existence of gesture control system in which the user is required to be proximal or close to the interface panel. The reference Zimmerman et al. is relied upon for teaching the sensors are mounted on the panel of the video display unit (figure 1).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3, 10-12, 15, 19-21, and 23-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 and further in view of Starner et al. US Patent Application Publication 20020071277.

Regarding claims 1, 19, and 23-24, Zimmerman et al. teaches providing a plurality of gesturing sensors in a two-dimensional arrangement (col. 3 lines 19-30, col. 5 lines 38-40), each sensor being adapted to detect a gesturing instrument within a proximity of a sensor (col. 3 lines 25-30), each sensor having an independent detection event signal (illustrated in figure 1 with each sensor receiving a signal from the gesture instrument); determining a sensor sequence from a series of sensor detection events responsive to movement of a gesturing instrument within the proximity of said plurality of sensors and correlating said sensor sequence to a predetermined sequence in order to decode a command from said user (col. 3 lines 53-64). Zimmerman et al. teaches the sensors are mounted on the panel of the video display unit (figure 1). Zimmerman et al. is however silent on teaching the detected gesture is used to provide signature information and authorizing a physical security action in response to the user authentication. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) in order to add a confirming degree of authenticity to the signature and the use of a gesture to authorize a physical security action such as opening a door is evidenced by Starner et al. (paragraph 0035, 0038) in order to provide a remote command and control interface without the use of a remote control.

It would have been obvious to one of ordinary skill in the art for the detected free space gesture to provide signature information in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests using a free space gesture to generate command and Pryor teaches detecting signature from a free-space gesture in order to add a confirming degree of authenticity

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to the signature and authorizing a physical security action in response to the user authentication allows a system or device to be controlled using gestures instead of a remote control.

Regarding claims 2 and 20, Zimmerman et al. teaches applying timing analysis to the sensor detection events (col. 3 lines 35-40).

Regarding claims 3 and 21, Zimmerman et al. teaches decoding a command from a gesture (col. 3 lines 53-64) but is silent on teaching the authorized sequence is use in authorizing a financial transaction. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) and the detected signature is used to authorize a financial transaction (col. 9 lines 4-10) in order to add a degree of security to the system to ensure the authenticity of the signature.

It would have been obvious to one of ordinary skill in the art for the authorized sequence is use in authorizing a financial transaction in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests decoding a command from a gesture and Pryor teaches detecting signature from a free-space gesture and the detected signature is used to authorized a financial transaction in order to add a degree of security to the system to ensure the authenticity of the signature.

Regarding claim 10-11 and 15, Zimmerman et al. teaches providing a plurality of gesturing sensors in a two-dimensional arrangement (col. 3 lines 19-30, col. 5 lines 38-40), each sensor being adapted to detect a gesturing instrument within a proximity of a sensor (col. 3 lines 25-30), each sensor having an independent detection event signal (illustrated in figure 1 with each sensor receiving a signal from the gesture instrument); determining a sensor sequence from a series of sensor detection events responsive to movement of a gesturing instrument within the

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proximity of said plurality of sensors and correlating said sensor sequence to a predetermined sequence in order to decode a command from said user (col. 3 lines 53-64). Zimmerman et al. teaches the sensors are mounted on the panel of the video display unit (figure 1). Zimmerman et al. teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently includes a computer readable medium. Zimmerman et al. is however silent on teaching the detected gesture is used to provide signature information. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) in order to add a confirming degree of authenticity to the signature and the use of a gesture to authorize a physical security action such as opening a door is evidenced by Starner et al. (paragraph 0035, 0038) in order to provide a remote command and control interface without the use of a remote control.

It would have been obvious to one of ordinary skill in the art for the detected free space gesture to provide signature information in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests using a free space gesture to generate command and Pryor teaches detecting signature from a free-space gesture in order to add a confirming degree of authenticity to the signature and authorizing a physical security action in response to the user authentication allows a system or device to be controlled using gestures instead of a remote control.

Regarding claim 12, Zimmerman et al. teaches decoding a command from a gesture (col. 3 lines 53-64) but is silent on teaching the authorized sequence is use in authorizing a financial transaction. Pryor in an art related machine interface invention teaches detecting signature from a free-space gesture (col. 9 lines 4-29) and the detected signature is used to authorize a financial

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transaction (col. 9 lines 4-10) and the process for correlating the sequence is software control (col. 11 lines 58-61). One skilled in the art recognizes that software is inherently stored on a computer readable medium.

It would have been obvious to one of ordinary skill in the art for the authorized sequence is use in authorizing a financial transaction in Zimmerman et al. as evidenced by Pryor because Zimmerman et al. suggests decoding a command from a gesture and Pryor teaches detecting signature from a free-space gesture and the detected signature is used to authorized a financial transaction in order to add a degree of security to the system to ensure the authenticity of the signature.

Claim 4-7, 13-14, 16, 22, and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 in view of Starner et al. US Patent Application Publication 20020071277 and further in view of Pond et al. US Patent Application Publication 20040030601.

Regarding claims 4-6, 13-14, and 22, Zimmerman et al. in view of Pryor in view of Starner et al. teaches decoding a command from a gesture and authorized a physical security action of unlocking a of unlocking a door (see response to claim 1) and one skilled in the art further recognizes that the unlocking of a door allow a person to transport an item from a secured area but is silent on teaching physical security action of unlocking a fuel pump. Pond et al. in an art related payment method for a mobile device invention teaches the use of gestures as input in a

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payment system (paragraph 0084) and the system of purchase includes a gas dispenser (paragraph 0087) in order to allow a convenient method of payment at the pump.

It would have been obvious to one of ordinary skill in the art to have a sequence is used to authorize a physical security action and the physical security action comprises unlocking a door or a fuel pump in Zimmerman et al. in view of Pryor in view of Starner et al. US Patent Application 20020071277 as evidenced Pond et al. because allows the generation of control information without any physical contact and provides a convenient command and control interface.

Regarding claims 7, 16, and 25, Zimmerman et al. teaches the use of sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) but is silent on teaching the use of RFID sensors to detect the gesture device. Pond et al. in an art related payment method for a mobile device invention teaches the use of an array of RFID sensors to detect the gesture of a RFID device and inherently include software for computer 1407 (paragraph 0084) in order to obtain identifying information without any direct contact.

It would have been obvious to one of ordinary skill in the art to use RFID sensors to detect the gesture device in Zimmerman et al. in view of Pryor in view of Starner et al. as evidenced by Pond et al. in order to use a gesture known by the user only to trigger a security action.

Claims 8, 17, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 in view of Starner et al. US Patent Application Publication 20020071277 in view of Hiroaki US Patent 6661425 and further in view of Lawrence US Patent 3580058.

Regarding claim 8, 17, and 26, Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) and teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently include a computer readable medium. Zimmerman et al. is silent on teaching the use of an array of acoustic sensors to detect the gesturing instrument. Hiroaki in an art related sensor system teaches the use of acoustic sensors to detect gestures (col. 17 lines 29-33). The Use of acoustic sensors therefore provides an alternative to the use of ultrasonic sensors. Lawrence in an art related sensor system teaches arranging acoustic sensors to produce acoustic mismatches for generating reflective pulses (col.1 lines 43-50) for indicating the acoustic characteristic of the sensors.

It would have been obvious to one of ordinary skill in the art to have an array of acoustic sensors to detect the gesturing instrument in Zimmerman et al. in view of Pryor as evidenced by Hiroaki in view of Lawrence because Zimmerman et al. in view of Pryor suggests the use of ultrasonic sensors to detect move of the gesturing instrument and Hiroaki in view of Lawrence teaches the use of reflective acoustic sensors to detect gestures. The Use of acoustic sensors therefore provides an alternative to the use of ultrasonic sensors.

Claims 9, 18, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zimmerman et al. US Patent 4988981 in view of Pryor US Patent 6750848 in view of Starner et

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al. US Patent Application Publication 20020071277 and further in view Fleck et al. US Patent 6556190.

Regarding claims 9, 18, and 27, Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument (glove) (col. 3 lines 35-38) and teaches the use of software to convert the time delay into coordinate (col. 3 lines 43-45) and the software inherently include a computer readable medium. Zimmerman et al. is silent on teaching providing an array of infrared (IR) sensors adapted to detect movement of gesturing instrument that are distinguishable by heat. Fleck et al. in an art related coordinate input device teaches the use of IR sensors that are distinguishable by heat (col. 7 lines 59-64) and therefore provides an alternating detecting means to the ultrasonic sensors.

It would have been obvious to one of ordinary skill in the art to provide an array of infrared (IR) sensors adapted to detect movement of gesturing instrument which are distinguishable by heat in Zimmerman et al. in view of Pryor teaches the use of ultrasonic sensors to detect move of the gesturing instrument and Fleck et al. teaches the use of (IR) sensors adapted to detect movement of gesturing instrument which are distinguishable by heat as an alternative detecting means to the sensors as taught by Zimmerman et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The following patents are cited to further show the state of the art with respect to the use of free space gesture in a control system:

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Muthusamy et al. US Patent 6310629

Kanevsky et al. US Patent 6421453.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Vernal U. Brown whose telephone number is 571-272-3060. The examiner can normally be reached on 8:30-7:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 571-272-7308. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Vernal Brown
July 22, 2006



BRIAN ZIMMERMAN
PRIMARY EXAMINER